

BOOK REVIEWS

Lawrence B. Conyers. *Interpreting Ground-penetrating Radar for Archaeology*. 2012. Left Coast Press, Walnut Creek, CA. ISBN 978-1-61132-216-3.

Ground-penetrating radar (GPR) is being used more and more by archaeologists, due to its ability to image a site in three-dimensions quickly and non-destructively. Nevertheless, the problem remains that few archaeologists have been able to find training in data collection and processing. Learning to interpret data is significantly more difficult than data collection and processing and proficiency requires years of experience. Lawrence Conyers lessens this steep learning curve in his excellent new book in which he shares his 23 years of worldwide experience interpreting GPR data to the benefit of both the experienced technician and novice practitioner. As a former student of his and a professional collaborator, this book has already become a reference for my work.

Previous books on remote sensing, tend to emphasize GPR method and field practices or consist of edited volumes of multiple project examples or technical studies each by a separate author (e.g. Johnson 2006). While very useful, these books would have benefitted from a more comprehensive approach. Conyers's previous volumes primarily discuss the method and theory of GPR data collection and processing (Conyers 1997, 2004). In this volume, Conyers has produced a textbook on the interpretation of GPR data using hundreds of examples from his and other archaeologists' work, each with multiple full color illustrations and photos. The book is organized thematically with chapters on basic method and theory, outlining interpretive results from different types of sites, targeted feature types, and field conditions, and arguing for using GPR results as part of a site's interpretation. He does all of his writing in

first person, nearly narrative style making this text easy to read and approachable. Conyers also repeatedly calls on archaeologists to begin integrating GPR interpretations into broader site interpretations and to use GPR data as a tool to answer research questions. His use of extensive comparative examples throughout should enable others to bridge that interpretive gap in their work.

The introduction outlines the intent of the book to discuss how different types of archaeological sites may look in processed GPR data and what pitfalls may be encountered at complex sites. In the only chapter that discusses method and theory, Conyers outlines basic data collection parameters and the essentials of how GPR works. This section is not intended to teach the novice how to collect data, but to explain the basics of data collection and processing method options. Here Conyers also makes a crucial intervention in the field by discussing how water in the subsurface affects GPR results, refuting often cited assumptions about water making data interpretation and collection impossible. Conyers explains his personal history of GPR in the third chapter, which reads like a history of the discipline of archaeological geophysics. He is quick to point out his early mistakes (as he does periodically elsewhere in the book) and roots the evolution of the discipline within a timeline of his work.

In the second third of the book, Conyers packs his chapters with examples of different site types, field conditions, and environmental conditions. These chapters on geological complexities, cultural complexities, depth penetration, historic sites, graves and cemeteries, prehistoric sites, and caves, tunnels, and void spaces are intended to act as a road map for the interpreter to understand what many kinds of features and conditions might look like in GPR and, more importantly, why they appear the way they do. The two chapters on complexity point out frequent problems with interpreting data without consideration for site

disturbances and underlying geology. The depth penetration chapter is a helpful guide to adverse conditions where poor data were collected and discusses the limitation of the radar energy; this point is particularly important, because a common stumbling block is figuring out the cause of a problem. The chapters on historic and prehistoric sites, graves and cemeteries, and caves are full of fascinating comparative examples and cautionary tales, which provide excellent basis for survey planning and interpreting results from a wide variety of site types present in geographically diverse areas from the sites in the southeastern United States to Israel and Africa. Fortunately, archaeological sites cross-culturally share many characteristics, meaning that case studies of rock shelters in Africa still have a direct bearing on work being done in the United States.

The final third of the book is dedicated to describing how GPR results can extend beyond the basic identification of anomalies and can be used as part of a comprehensive interpretive plan for a site. The first of these chapters discuss case studies on how GPR results were used to make archaeological interpretations. The other chapter discusses how a technical specialist for GPR can work effectively with an archaeological team to make sure expectations are met and data is utilized fully. This chapter is mostly relevant to people who hire a specialized geophysical archaeologist and want to have an awareness of their limitations and those geophysicist who need a primer on client communication.

It is a sign of this book's many strengths that one is left to make the minor criticism of Conyers's occasional straying into stories involving personal communications with other geophysical archaeologists and archaeologist to illustrate a point. These forays can be frustrating because they lack citations for further reading and the point is only anecdotal. This minor criticism aside, Conyer's does include a small reference section created from citations throughout the text, primarily citing work done by Conyers himself, which is understandable given his position as one of the founders of this field and the personal nature of many of his examples. In general, this book is accessible to many audience levels, from making GPR data seem less mysterious to a novice, to providing an excellent comparative data set for experienced practitioners. While this book does not teach one how to collect or process GPR data, it does explain the interpretation process and pitfalls in clear, concise, accessible language, and it would be a valuable resource for any archaeologist wanting to work with GPR.

References Cited

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2006 *Remote Sensing in Archaeology: An Explicitly North American Perspective*. University of Alabama Press, Tuscaloosa.

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William Logan and Keir Reeves, Editors.
Places of Pain and Shame: Dealing with "Difficult Heritage." Key Issues in Cultural Heritage. 2009. Routledge, New York. ISBN-10: 0415454506.

Over the past decade, historians, cultural resource managers, and heritage site managers increasingly addressed the interpretations of the "painful" past at historic places. The International Coalition of Sites of Conscience, founded in 1999, acknowledged this growing number of historic sites "remembering past struggles for justice and addressing their contemporary legacies" and began to support these sites (International Coalition of Sites of Conscience 2012). *Places of Pain and Shame: Dealing with "Difficult Heritage"* is a collection of essays by students, architects, heritage professionals, and professors that delves into some of the difficult questions surrounding the interpretation of "places of pain and shame."

Sixteen essays from places across the world, including Australia, Vietnam, South African, and Taiwan, highlight problems and solutions that heritage managers and historic sites use in discussing the painful past. The editors divided the essays based on the type of historic site: massacre and genocide sites, wartime internment sites, civil and political prisons, and places of benevolent internment. Each historic place is now open to the public either as a heritage site, monument, or museum, and each place has a varying level of public and private support. A "place of pain and [] or shame" in this collection is a place where the prevailing government or culture did wrong to another government or culture. The place represents an explicit or implicit approval of inflicting physical, emotional, or social pain on a group of people.